



ZigBee Motion Detector ZMOVE

User Manual



Revision: 4.0

Document: UM_ZMOVE_20090731_001_04_00

WARRANTY

The device supplied to the buyer and/or the recipient is guaranteed by CLEODE against any malfunctions originating from a design and/or manufacturing flaw, for a period of twelve (12) months following delivery. The buyer and/or recipient is (are) responsible for proving the existence of the said defects or flaws. This warranty is applicable in accordance with articles 1641 to 1648 of the French Civil Code and in compliance with the French statutory warranty. The warranty covers the replacement free of charge of devices and parts affected by a design and/or manufacturing flaw excluding conspicuous defects in the device that are covered by the buyer and/or the recipient.

In order to invoke the warranty, the buyer must immediately send written notice to CLEODE of the flaws that it attributes to the device. It must enable CLEODE to have access to the device to observe these defects and repair them. The warranty provided by CLEODE is strictly limited to the equipment provided and shall only have for effect the replacement or repair, at CLEODE's expense, on its own premises, of all devices or parts that are not functioning as a result of defects or flaws. CLEODE reserves the right to modify the devices in order to comply with the warranty.

The warranty does not apply to replacement or repairs that may result from normal wear and tear of devices, systems or products, damage or accidents resulting from negligence, failure to supervise or maintain, or incorrect use of the devices, systems and/or products.

The maintenance service is provided by CLEODE with all reasonable care possible and in compliance with the current state of the arts.

The exchange of parts or repairs performed under the warranty cannot result in extending the length of the warranty. In no event can the unavailability of the device due to servicing give rise to compensation for any reason whatsoever. The seller is released from all obligations relating to the warranty if the product or device has been modified without prior written consent, or if original parts have been replaced by parts which it has not manufactured without prior consent. If unforeseen damage is caused by the device, it is expressly agreed that the seller can only be liable for the reimbursement of monies received for the purchase of the device if it has been destroyed. Under no circumstances can the seller be held liable for indirect or contingent damage. The seller is released from any liability and the buyer waives any rights against it if an accident or direct or indirect damage is caused to the buyer following a defect, incorrect usage, incorrect maintenance or normal wear of the device sold.

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TABLE OF REVISIONS

Version	Authors(s)	Version description	Date
0.1	CLEODE	Initial version	08/02/2009
1.0	CLEODE	Validated document	08/04/2009
1.1	CLEODE	Minor corrections	04/09/2009
2.0	CLEODE	Validated document	04/09/2009
2.1	CLEODE	Add Technical features chapter	24/09/2009
3.0	CLEODE	Validated document	24/09/2009
3.1	CLEODE	Updated to new design	09/09/2011
4.0	CLEODE	Validated document	14/09/2011

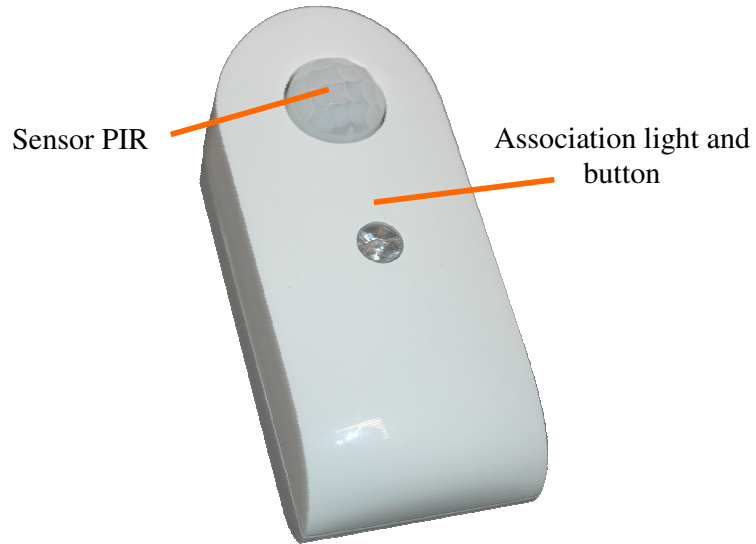
REFERENCE DOCUMENTS

N°	Document	Description
[1]	ZigBee_Cluster_Library_Public	Spécification de la Zigbee Cluster Library
[2]	ZigBee_Home_Automation_Profile	Spécification du profile Home Automation
[3]	ZigBee_Specification	Spécification de la norme ZigBee

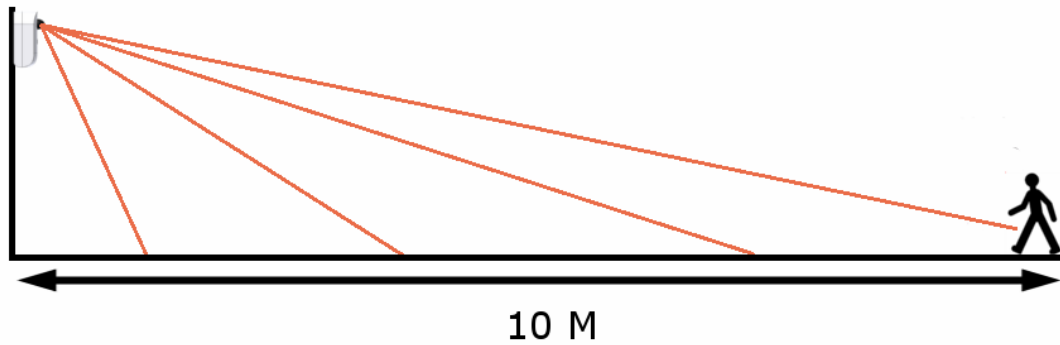
I INTRODUCTION

I.1 ZIGBEE MOTION DETECTOR PRESENTATION

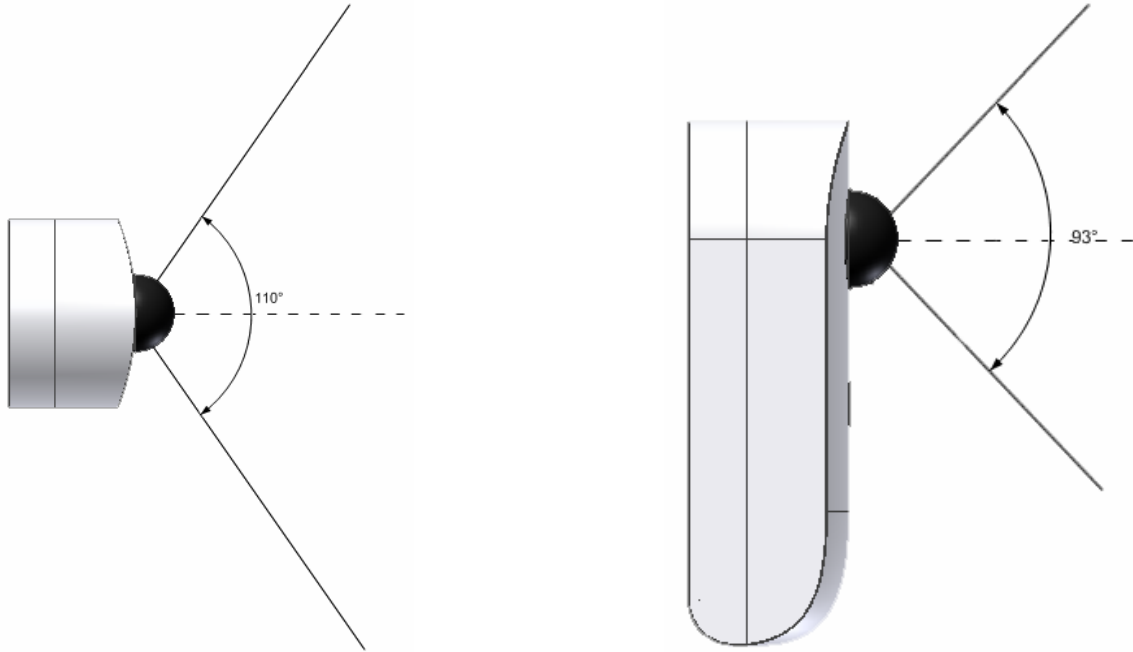
The motion detector has this form:



The detector of presence ZigBee™ (ZMOVE) contains an infrared sensor allowing to detect the movements in a room in a maximum 10 meter.



He can detect a person on 110 ° horizontally and on 93 ° vertically.



The ZMove module Zigbee™ works in conjunction with a Zigbee coordinator™ compatible stack pro 2007.

CLEODE also markets Coordinators Zigbee™.

Contact : support@cleode.com ou Web : www.cleode.fr for more information

1.2 COPYRIGHT

The CLEODE trademark and the CLEODE logo are properties of CLEODE SA, France. This document also refers to trademarks and other product names that are registered trademarks of their respective owners.

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II MOTION DETECTOR DESCRIPTION

II.1 ZIGBEE PRESENTATION

The ZigBee™ motion detector contains an application of motion detector of type Occupancy Sensing defined in the standard Home Automation (Cf. document [2]). It also integrates a cluster ON/OFF allowing to send ON commands or OFF to an object also containing this cluster.

This object ZigBee™ is in accordance with the standard ZigBee™ PRO 2007 and in the profile Home Automation. For more details of the exchanged data, please refer to documents [1], [2] et [3].

II.2 MOTION DETECTOR APPLICATION

The motion detection is made through a report value , on the cluster Occupancy sensing, towards the objects which have a binding, on this cluster, with the ZMOVE. This application is part of profile Home Automation.

In every motion detection, the ZMOVE will send an ON command to the objects which have a binding with the ZMOVE on the cluster ON / OFF. The OFF command will be sent every time at the end of the motion detection.

II.2.1 OPEN DOOR DETECTOR APPLICATION DESCRIPTION

- Device ID : Occupancy Sensor
- Endpoint : 1
- Clusters :

Server	Client
Basic (0x0000)	On/Off (0x0006)
Power_Configuration (0x0001)	/
Identify (0x0003)	/
Alarms (0x0009)	/
Occupancy_Sensing (0x0406)	/

II.2.2 CLUSTERS DESCRIPTION

This is a terse description of clusters and attributes which are implemented in the ZMOVE. For more detail on these, see document [1].

- Basic cluster :

This cluster is used to determine basic information about the device.

Attribute	Attribute ID
ZCLVersion	0x0000
ApplicationVersion	0x0001
StackVersion	0x0002
HWVersion	0x0003
ManufacturerName	0x0004
ModelIdentifier	0x0005
DateCode	0x0006
PowerSource	0x0007
LocationDescription	0x0010
PhysicalEnvironment	0x0011
DeviceEnabled	0x0012
AlarmMask	0x0013

- Power Configuration cluster:

This cluster is used to specify the min threshold of battery level by setting the *BatteryVoltageMinThreshold* attribute value.

Attribute	Attribute ID
BatteryAlarmMask	0x0035
BatteryVoltageMinThreshold	0x0036

- Identify cluster :

This cluster is used to put a device into an identification mode. By writing the *IdentifyTime* attribute value, the user asks the device to blink the light, during a number of seconds specified by this value.

Attribute	Attribute ID
IdentifyTime	0x0000

- Alarms cluster:

This cluster is used to signal an alarm. In the case of ZMOVE, only the low battery power level is processed. If the battery power level is too low (under 2,4V) the *AlarmCount* value changes to 1 and a command message is send to coordinator.

Attribute	Attribute ID
AlarmCount	0x0000

- Occupancy sensing:

This cluster is used to signal a motion or not by *Occupancy* attribute. On motion detection and at the end of detection on report of *Occupancy* attribute value is transmitted on the network.

Attribute	Attribute ID
Occupancy	0x0000
OccupancySensorType	0x0001
PIROccupiedToUnoccupiedDelay	0x0010

III INSTALLATION AND NETWORK ASSOCIATION

III.1 INSTALLATION

For an optimal functioning, he does not have to have more than one ZMOVE by room. To avoid any inconvenient detection, the detector must not be directly placed in front of:

- a source of heat
- a window
- another infrared detector

III.1.1 DOUBLE-SIDED TAPE INSTALLATION

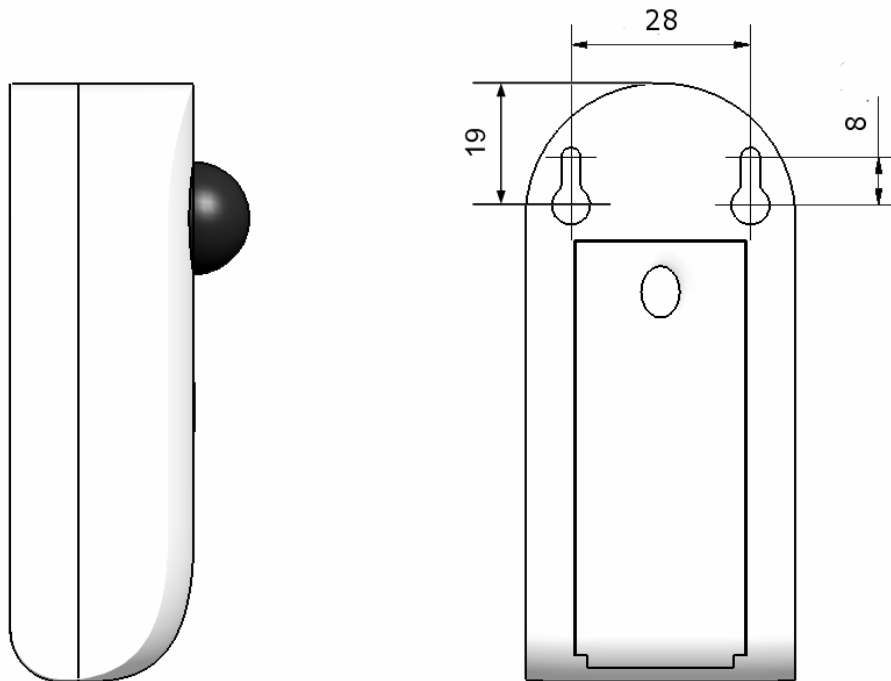
To mount the ZMOVE with a double-sided tape, follow this:

- 1) Stick a double-sided tape on the ZMOVE bottom
- 2) Dust the wall
- 3) Mount the ZMOVE on the wall

III.1.2 SCREW INSTALLATION

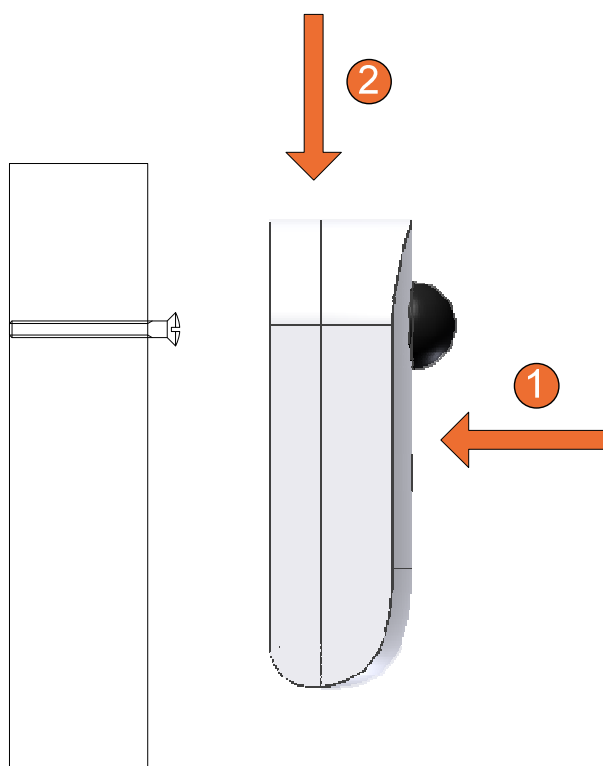
To fix the ZMOVE by means of the system of screw, follow the following procedure.

1. To position the ZMOVE in the wished place, you may mark the position of both fixing holes by using the size below.



2. Drill the wall by taking into account your system of fixation (ankles + screw).

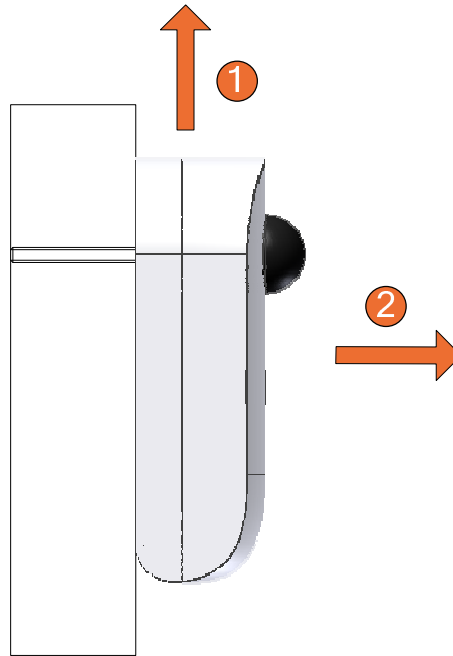
3. Screw the screws so as to leave approximately 3 mm enter the head of screw and the wall.
4. Position the case to make correspond both fixing holes and screws them.
5. Stick the ZMOVE to the wall; make a side movement downward to finalize the installation as indicate on the picture below.



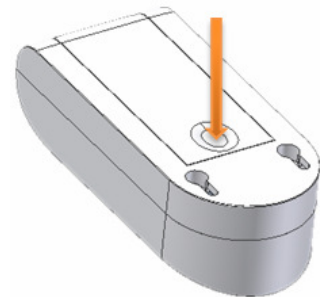
III.1.3 CHANGE THE BATTERIES

To change the batteries of the ZMOVE, follow the following procedure.

Take down the ZMOVE of the wall. For it, make a side movement upward then take away the ZMOVE of the wall as indicate on the plan below.



Turn the case and press on the end of the lid as indicated this against.



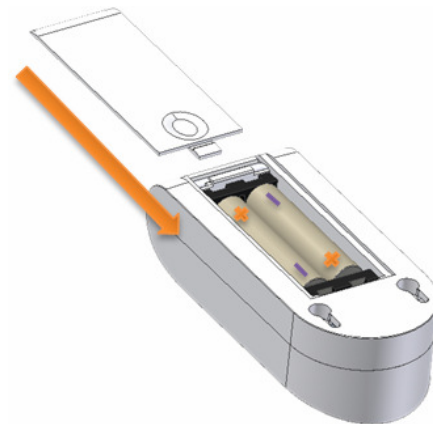
By continuing to press, pull on the lid to make slide downward of ZMOVE.



Change batteries by respecting well the indicated polarity.



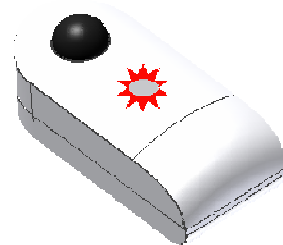
Put back the lid on the ZMOVE by making it slide until it is to clip.



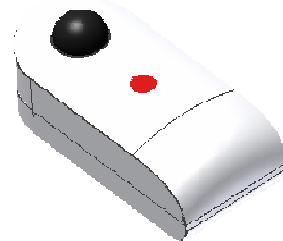
Once the ZMOVE closed, you can put back it in position.

III.2 STARTING UP ZMOVE

In the switched on of the object, it tries to join during about seconds and flashes twice.



If a coordinator is present and what it authorizes the ZMOVE to join the network, the light of the ZMOVE flashing during 2 seconds then turn off.

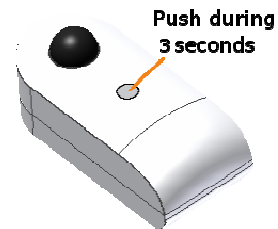


In the cases where the association is not possible, the object is going to put itself in sleep and to try automatically to join at the end of 15 minutes. This time will increase twofold in every new failure of the association.

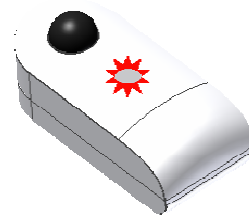
III.3 RESTART OF THE ASSOCIATION PHASE

If the ZMOVE is not associated, the user can ask him at any time to join a network.

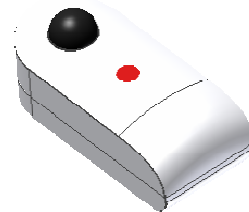
For this, the user has to press during 3 seconds on the button.



If the ZMOVE was not associated it begins flashing quickly during 20 seconds. The ZMOVE looks for a coordinator during this blinking.



If the association is success, the light of the ZMOVE flashing during 2 seconds and turn off.

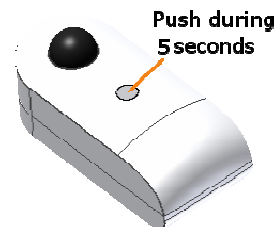


If the light of the ZMOVE does not flash after pressing on the button during 3 seconds, this means that he is already associated in a network.

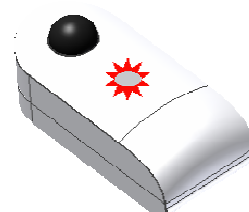
III.4 RESET

If need, the user can reset the ZMOVE.

For this, he has to press on the button during 5 seconds.



When the ZMOVE reset, the LED flashes twice and turn off.



IV TECHNICAL FEATURES

Weight	30 g (without battery)
Power Supply	2 AA battery
Battery Life	> 1 year
Transmission range	100 m outdoor 30 m indoor
Managed channels (frequency)	16 ZigBee™ channels (2.405 to 2.480 GHz)

REPAIR AND MAINTENANCE

Defective equipments shall be first reported to the CLEODE support team in order to be assigned an RMA number. Be prepared to state your name, company and the serial number of the defective item to the support personnel.

The item shall then be returned to CLEODE with the following documents:

- The RMA number
- A copy of the delivery slip
- A detailed description of the default and the test context

The maintenance period is typically four (4) weeks starting from the date of reception of the equipment at the CLEODE headquarters.

Remark : A FAQ (Frequently Asked Questions) is available on the www.cleode.com web site.



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